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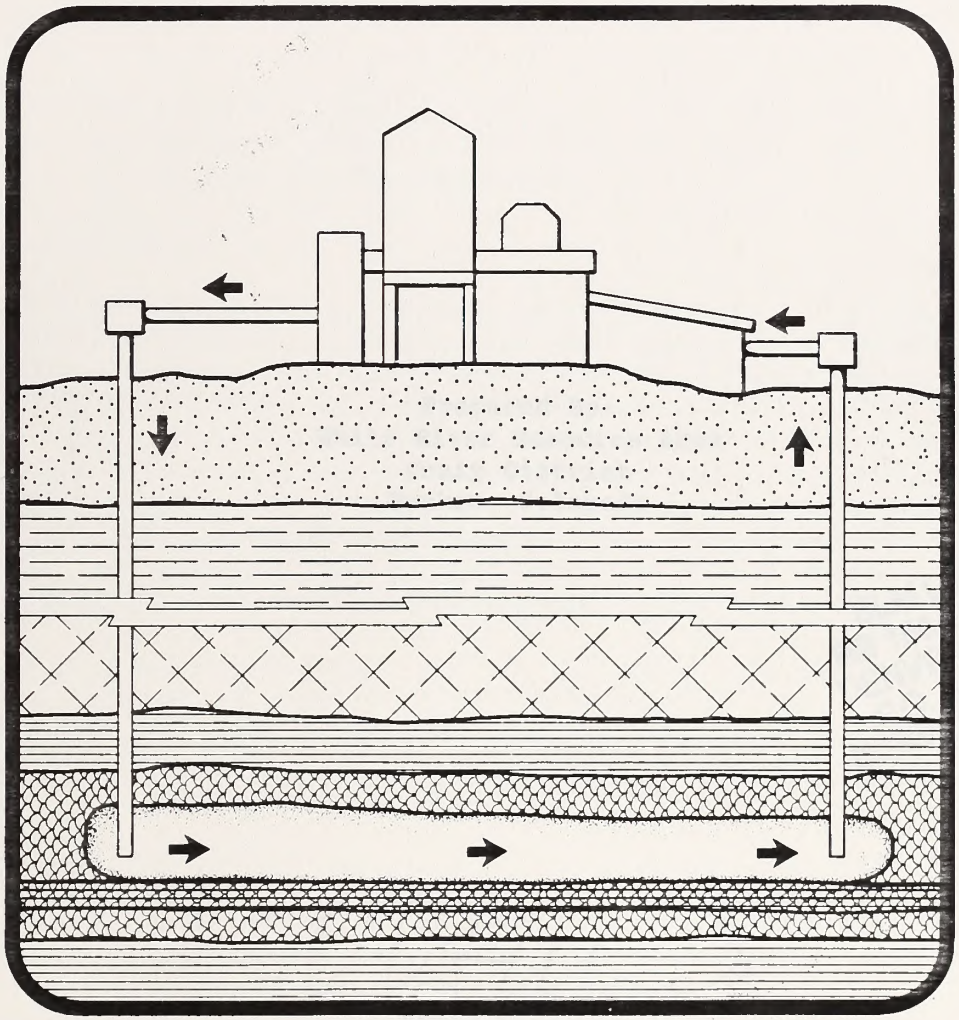
RECORD OF DECISION

WOLF RIDGE CORPORATION MINE PLAN FOR A NAHCOLITE SOLUTION MINE



U.S. Department of the Interior
Bureau of Land Management
White River Resource Area
Craig District, Colorado

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RECORD OF DECISION

WOLF RIDGE CORPORATION
MINE PLAN
FOR A
NAHCOLITE SOLUTION MINE

Prepared By:
White River Resource Area
Craig District
Meeker, Colorado

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RECORD OF DECISION

This document records the decision reached by the Bureau of Land Management (BLM) on Wolf Ridge Corporation's (WRC's) Mine Plan for a commercial-scale nahcolite solution mine. WRC's Mine Plan involves development on four federal sodium lease tracts within the Piceance Basin in northwest Colorado, Rio Blanco County.

DECISION

The decision is hereby made to approve WRC's Mine Plan (the Proposed Action), subject to the stipulations contained in Appendix A. Their Mine Plan, which was submitted to BLM pursuant to federal regulations at 43 Code of Federal Regulations (CFR) 3570, was defined and analyzed in an environmental impact statement (EIS) in conformance with the National Environmental Policy Act of 1969.

ALTERNATIVES

Four alternatives were described and analyzed in the EIS: the No Action Alternative, the Proposed Action (125,000 Tons Per Year), the 50,000 TPY Alternative, and the 500,000 TPY Alternative.

No Action Alternative

This alternative involves construction and operation of a 6-ton per hour, 2-year maximum pilot-scale nahcolite mine that was analyzed by BLM in an environmental assessment (EA Number CO-010-86-07) and approved in a decision record signed May 2, 1986, and subsequently amended on September 10, 1986. Therefore, this action (the pilot-scale mine) is independent of WRC's commercial-scale mine plan and can occur, regardless of the decision resulting from the EIS analysis. The pilot project represents the continuation of current management practices in the study area. Thus, under the No Action Alternative, the approved pilot project will take place; however, expansion of the approved pilot project to a commercial-scale will not occur.

Facilities approved for the pilot project include: a 5-acre plant site, a 4-acre well field for in situ solution mining of nahcolite, an evaporation pond encompassing 4 acres, a new water well and ancillary pipeline, and upgrading (including graveling) of the existing access road into the plant site.

No significant impacts will result from the No Action (Pilot Project) Alternative. Minor short-term impacts will occur to air quality, soils, vegetation, livestock grazing, water resources, wildlife, and recreational/visual resources. Cultural and paleontological resources will also be potentially impacted. Existing and future mineral lease rights could be complicated because of diminished surface occupancy possibilities within the project development area.

Groundwater consumed by the pilot project will incrementally contribute to the cumulative adverse alterations of downstream endangered fish habitat, although the project, by itself, will not jeopardize the continued existence of any listed fish. Mitigation (conservation measures) will be employed to compensate for any impact resulting from the pilot project.

Proposed Action (Preferred Alternative)

WRC's proposal involves construction and operation of a commercial-scale nahcolite solution mine to produce sodium bicarbonate at a maximum rate of 125,000 tpy over a 30-year period. The proposal involves phased-approach development, with initial production of 50,000 tpy, increasing in the second or third year of operation to 125,000 tpy.

The Proposed Action would involve: expansion of the approved pilot project well field and plant site, including paving of the access road into the plant site (all affecting up to 215 additional acres), construction of additional evaporation ponds (affecting up to 22 additional acres), construction of a natural gas pipeline into the plant site (involving 17 acres), and addition of a warehouse/rail loading facility at Lacy Station in Rifle, Colorado.

The only potentially significant impacts associated with this alternative would be to local groundwater quantity and quality. There would be a 3.2 percent reduction in average daily flow from Yellow Creek. This would be mitigated through a state required water augmentation plan. The area of the base of the lower aquifer in contact with saline minerals would increase by approximately 20 percent within the lease tracts.

The resources described as being affected under the No Action Alternative, in most cases, would be impacted to a greater degree under this alternative because of the longer (30-year) project life. In addition, mined out cavities and potential subsidence could complicate future oil and gas drilling within the sodium well field. Potential surface subsidence of less than 1 foot would also occur. However, none of these impacts would be significant if the identified mitigation measures are employed (Appendix A).

50,000 TPY Alternative

This alternative would involve construction and operation of a 30-year solution mine producing 50,000 tpy of sodium bicarbonate. It would essentially be an expansion of the 2-year pilot project to a 30-year commercial facility. It would involve similar, but less expansion than described under the Proposed Action, except the access road would not be paved and the Lacy Station warehouse/rail loading facility would not be built. Approximately 90 acres of additional land would be associated with expansion of the well field. Additional evaporation ponds would be required, affecting approximately 10 acres.

The only potentially significant impacts associated with this alternative would be to local groundwater quantity and quality. There would be a 2.0 percent reduction in average daily flow from Yellow Creek. This would be

mitigated through a state required water augmentation plan. The base of the lower aquifer, in contact with saline minerals, would increase by approximately 10 percent within the lease tracts. Other resource impacts would be similar, although greater than those addressed under the No Action Alternative, because of the 30-year project life. Potential surface subsidence of less than 1 foot would also occur under this alternative.

500,000 TPY Alternative

This alternative would involve construction and operation of a 30-year solution mine producing 500,000 tpy of sodium bicarbonate. It would involve: substantial expansion of the approved pilot project well field and plant site (affecting up to 818 additional acres), additional evaporation ponds (affecting up to 88 additional acres), a commercial transmission power line into the plant site, bulk product loading and handling facilities on-site and at Lacy Station, and a coal-fired generator and associated facilities.

Impacts to all resources would be greatest under this alternative. Potentially significant impacts would occur to air quality, groundwater quantity and quality, cultural resources, and riparian-wetland habitat along Yellow Creek.

The environmentally preferred alternative is the No Action Alternative. BLM's preferred alternative is the Proposed Action.

MANAGEMENT CONSIDERATIONS

The terms and conditions contained within WRC's four sodium leases have focused and constrained BLM's analysis and final approval of their commercial-scale mine plan. These sodium leases, C-0118326, C-0118327, C-0119986, and C-37474, give the lessee (WRC) the right to develop the sodium minerals within the leases subject to certain terms and conditions. The BLM can only deny approval of their Mine Plan if it is not in conformance with the terms and conditions of the leases. Approval of WRC's Mine Plan (the Proposed Action), subject to the stipulations contained in Appendix A, is in conformance with the sodium lease terms and conditions.

MITIGATION AND MONITORING

All practicable means to avoid or minimize environmental harm from WRC's proposal (Proposed Action) have been adopted. All of the stipulations contained in Appendix A are applied by BLM to the approved action. These stipulations were developed as the result of a comprehensive, interdisciplinary analysis, and technical evaluation of WRC's five volume mine plan (with numerous revisions), numerous technical reports, and various information submittals. These stipulations represent the minimum amount of mitigation deemed necessary, at this time, in order to ensure that WRC's Mine Plan is in compliance with existing sodium lease terms and conditions, which explicitly require protection of groundwater and oil shale resources. It is important to note that many of these stipulations, especially those within the Well Drilling, Completion and Abandonment; Monitoring; and Submittals

sections, are contingent on, and may change based on data obtained during the experimental pilot-scale project and early stages of the commercial-scale project. The flexibility to change and/or revise stipulations, especially those operational stipulations within the above-referenced sections that deal with technical and environmental uncertainties, is essential because of the innovative, unproven nature of the technology WRC will be employing, and BLM's responsibility for prudent management of the public lands. Thus, the identified operational stipulations may be modified as monitoring results indicate opportunities/needs for revision, so long as the mitigation objective is still met (i.e., impacts are mitigated as intended in the EIS impact analysis section and/or by the lease terms).

PUBLIC INVOLVEMENT

The views of the public have been sought and considered throughout the EIS and decisionmaking process on WRC's Mine Plan. Public involvement initially began with public meetings held in Meeker (June 18, 1985) and Grand Junction (June 19, 1985), Colorado, and through a 30-day written comment period. Following release of the draft EIS, a 60-day public comment period was held, in addition to public hearings in Meeker (August 26, 1986) and Grand Junction (August 27,1986), Colorado. The final EIS was released on July 31, 1987. Public comments were accepted for 30 days from this date.

Recommended by: _____ 11/12/87
Area Manager — Date

Concurred by: _____ 11/12/87
District Manager — Date

Approved by: _____ 11/20/87
State Director — Date

APPENDIX A - BLM APPLIED MITIGATION

GENERAL

1. Due to the nature of the technology to be employed, environmental impacts will be closely and carefully monitored. In compliance with the terms and conditions of the sodium leases and mitigation developed in the EIS, should this continuous monitoring indicate that significant impacts are occurring which were not anticipated in the EIS, the project will be shut down. BLM will then reassess the project, given the monitoring results, and determine whether additional mitigation will alleviate the impact or whether the project cannot be allowed to resume development.

2. If additional construction material is necessary for development associated with the approved action, the designated operator/lessee shall submit an application to the authorized officer for authorization to obtain such material, if located on public lands.

3. The designated operator/lessee shall locate, handle, and store gas, oil lubricants, and other petroleum products in such a manner so as to prevent them from entering into and contaminating water resources and soils on the public lands.

4. The United States of America considers the development of groundwater resources to be necessary and frequently indispensable to effective land management. The United States shall have the first opportunity to file a state water right for any intercepted groundwater. The designated operator/lessee may file for water rights within the lease, only with a written waiver from the District Manager. The Bureau of Land Management concedes the existence of any water rights that the Wolf Ridge Corporation and its affiliates may own or control before the date of approval of this mine plan.

5. The authorized officer shall be contacted at least 24 hours prior to:

   a. Surface disturbing construction or maintenance activity
   b. Commencement of reclamation activity
   c. Commencement of drilling and logging operations

6. Rights-of-way will be required for the off-lease portions of ancillary facilities covered under the approved mine plan pursuant to Title V of the Federal Land Policy and Management Act and Section 28 of the Mineral Leasing Act of 1920, as amended.

AIR QUALITY

1. Periodic watering of the access roads, well field roads and plant site will be carried out to control fugitive dust emissions. This stipulation will apply particularly from May through October. The authorized officer may direct additional treatment of the road, as deemed necessary.

EVAPORATION POND

1. The designated operator/lessee will be required to pump and haul waste water from the evaporation ponds to an approved disposal site if the evaporation ponds reach or exceed their design capacity, unless otherwise approved in writing by the authorized officer.

2. The liners of the evaporation ponds will be underlain by a minimum of 4 inches of suitable soil material containing at least 95 percent material passing the No. 10 sieve (ASTM E-11 specifications) or other approved method.

3. A watertight catchment basin or other approved method will be employed at the outlet of the leak detection system on each of the evaporation ponds to contain any leaked fluids.

4. A buffer zone of 15 feet of undisturbed vegetation will be maintained between the toe of the fill slope on the east side of the evaporation ponds and the edge of the adjacent major drainage.

5. Evaporation pond liner integrity will be maintained during periodic removal of solids. If the liner is damaged during solids removal operations, the liner shall be repaired to the satisfaction of the authorized officer.

WELL DRILLING, COMPLETION AND ABANDONMENT

1. The annulus between the well bore and the 8 5/8-inch well casing will be filled with cement from the shoe of the 8 5/8-inch casing upward for 250 feet. Prior to horizontal drilling a Cement Evaluation Tool (CET) or equivalent log shall be run across this interval plus 100 feet above.

2. A "Notice of Intent to Abandon" will be submitted by the designated operator/lessee to the authorized officer before abandonment of any well developed within this project. The notice will contain an "as-built" diagram of the well and will describe any changes from the approved abandonment/plugging procedures. The authorized officer will review and approve or approve with modifications the notice within 15 calendar days of receipt. No special form for this notice is required. As a minimum, the following plugs will be required: 1) a steel bridge plug will be placed at the base of the production casing; 2) 100 feet of cement will be placed above this steel bridge plug; 3) a cement plug will be placed 20 feet above the Mahogany Zone down through to 120 feet into the Mahogany Zone and must be tagged to insure placement; and 4) 65 feet of cement will be placed at the surface. The intervals between the cement plugs will be filled with 9 pound/gallon or heavier mud. Other cement plugs or revised plugging procedures may be required, based on analysis of the cement evaluation logs. An appropriate surface hole location marker will be installed at grade.

3. Well spacing between cavities shall be adequate to ensure a 20-foot width at the top of the pillars that separate the cavities.

4. Diverter lines for the blow out preventer shall be directed into a lined mud pit at least 125 feet from the well.

5. Adequate waiting-on-cement times shall be observed for all cementing operations to achieve a minimum of 500 pounds per square inch (psi) compressive strength.

6. Drilling fluid material will be contained in bentonite lined mud pits and hauled to evaporation ponds upon completion of drill holes, unless otherwise approved in writing by the authorized officer.

7. A yearly plan of development and summary of the activity for the previous year shall be submitted prior to initiation of project development and by February 1 of each year thereafter. The plan will include the following items:

   A. Summary of the activity for the previous year including, but not limited to,

      1. Any new findings or developments,
      2. Acres disturbed, acres reclaimed,
      3. Wells drilled, plugged, converted to monitoring, etc.,
      4. Hydrologic monitoring.

   B. Proposed operations for the coming year, including, but not limited to,

      1. Location and number of new wells to be drilled,
      2. Well field piping system layout, including location of pressure transducers, 6-inch drain line connection points, and valves.
      3. Number of acres to be disturbed and to be reclaimed.

   C. Status of all surface facilities and wells not abandoned.

   D. Any technical considerations and/or proposed changes in approved operations.

   E. Map of mined-out cavities and identification of any subsidence areas.

Prior approval is necessary for any change made to informational submittals, monitoring, or approved operations.

MONITORING

1. Weekly monitoring of the mud gel in the annulus between the 13 3/8-inch surface casing and 8 5/8-inch well casing will be required and any observed changes and/or any remedial measures taken shall be reported monthly to the authorized officer.

2. The designated operator/lessee will be required to complete a certain number of wells as dedicated hydrologic monitoring wells. These wells will supplement the proposed monitor wells and will be located outside the well field and zone of influence of subsidence, so they are effective throughout entire mine life. The number and location of the dedicated hydrologic monitoring wells will be submitted by the applicant and approved by the authorized officer before initiating construction of the approved action. Monitoring of the groundwater will commence at least 6 months prior to the start of mining.

3. The designated operator/lessee will be required to monitor four groundwater zones: the unconfined water bearing zone (perched aquifer), the A-groove of the upper aquifer, the base of the lower aquifer, and the B-groove of the lower aquifer. The monitoring well(s) shall be equipped with a continuous graphic or other appropriate water level recorders. The well(s) shall be sampled two times, 1 week apart, for major and minor components, as soon as completed and cleaned out properly. Sampling for major components will be conducted at least once a month beginning 6 months prior to and continuing throughout mining operations, and minor components will be sampled annually. Monthly sampling shall continue for a period of up to 3 years (at the discretion of the authorized officer) after project cessation. Any deviation from baseline condition effects detected within the monitored zones during operations shall be reported to the authorized officer. Sampling frequency will be increased to at least once a week if effects to the monitored zones are recorded. The weekly samples will be analyzed for the field measurements and major components. The first weekly sample will be analyzed for minor components. If significant deviations from the baseline are recorded in the minor components, analysis of samples for minor components will continue. Analysis for only those minor components which show a significant deviation from baseline will be required.

   Unless otherwise authorized by the authorized officer, the well(s) shall be sampled for the following:

   <u>Field Measurements (Monthly)</u>

temperature	pH	conductivity

   <u>Lab Analyses - Major Components (Monthly)</u>

total dissolved solids	alkalinity	sodium
bicarbonate	carbonate	

   <u>Minor Components (Sample initially and if aquifer system is affected)</u>

arsenic	aluminum	cadmium
manganese	selenium	barium
chromium	nickel	vanadium
beryllium	copper	strontium
molybdenum	bismuth	lead
zinc	mercury	bromide

lithium	nitrate	calcium
sulfide	magnesium	fluoride
potassium	sulphate	boron
total phosphate	silica	iron
chloride	Dissolved Organic Carbon	

Lab analysis work must be performed by a laboratory approved by the authorized officer.

4. If leakage (brines) from cavities exceeding State of Colorado standards for total dissolved solids is detected in the base of the lower aquifer, the operator will be required to (1) perform remedial action such as extracting the brines and disposing of them through surface treatment, evaporation, or deep well injection at approved facilities, and/or (2) contain the brines within the base of the groundwater system and within the boundaries of the sodium leases, as determined by the BLM authorized officer.

5. The designated operator/lessee shall establish surface water monitoring stations for water quantity and quality as required by the authorized officer, upstream and downstream of the cone of depression on the main channels of Yellow and Piceance creeks. Data collected at the stations shall include continuous streamflow and precipitation records and comprehensive water quality analysis for all field measurements and major and minor components conducted on a quarterly basis. Data collected shall commence 6 months prior to start up and shall continue throughout mining operations as directed by the authorized officer. Should recorded water quality data deviate significantly from baseline, sampling frequencies may increase as directed by the authorized officer.

6. The lessee shall compile an inventory of all springs and seeps within the cone of depression and monitor for water quantity and quality. Water quantity of springs shall be monitored monthly for 6 months prior to and during mining operations. Water quality shall be sampled quarterly for field measurements and major and minor components starting 6 months prior to mining operations. Field measurements shall be monitored quarterly with major and components sampled annually during mining operations. Should quantity or quality of any springs or seeps deviate significantly from baseline, sampling intensity and frequencies may increase as directed by the authorized officer. The number and location of surface water monitoring stations and spring sites shall be submitted by the applicant to the authorized officer for approval.

7. The designated operator/lessee shall submit a quarterly hydrologic monitoring report to the authorized officer. Any significant changes to the hydrologic system shall be reported within 10 working days after being detected.

8. Discharge of water will not be allowed without prior written approval from the authorized officer of BLM.

9. A detailed subsidence monitoring system will be submitted by the designated operator/lessee to detect and determine:

   a. Extent of caving
   b. Impact on Mahogany Zone due to caving and/or pillar failure
   c. Any surface subsidence
   d. Actual cavity configuration

   This design will be submitted to the authorized officer for approval. The authorized officer will approve or approve with modifications or disapprove the design within 30 days of receipt. The subsidence monitoring system will be in operation prior to sodium production and will continue for at least 3 years following project cessation, or longer if conditions warrant, as determined by the authorized officer.

SUBMITTALS

1. The following information shall be submitted to the authorized officer within 30 days after such data is obtained:

   a. One copy of all hydrologic data obtained from drilling and monitoring
   b. Copies of all downhole logs
   c. Fluid injection and production volumes and corresponding pressures
   d. The daily 5 1/2-inch by 8 5/8-inch annular pressure readings
   e. Copies of the mud check sheets
   f. Weekly monitoring data of fluid levels in the 13 3/8-inch by 8 5/8-inch annulus

2. The Cement Evaluation Tool (CET) log or equivalent shall be submitted to the authorized officer within 10 days after logging.

3. Production from a cavity shall be stopped if production from the cavity meets the calculated production, based on the assumed cavity configuration.

4. Specific details and specifications for epoxy spray coatings or other remedial measures of minor casing leaks will be provided to the authorized officer for approval before initiating well construction.

5. The authorized officer will be notified of all spills, leaks and pressure losses within 24 hours of the occurrence during the week, or first thing Monday morning if the occurrence is on a weekend.

RECLAMATION

1. Interim reclamation measures may be necessary before project cessation, as determined by the authorized officer. In addition, erosion control measures may be necessary, as directed by the authorized officer.

2. Topsoil will be stripped to appropriate depths on all areas that will be disturbed by the proposed action and will be stockpiled for future restoration, as directed by the authorized officer. Topsoil stockpiles will be fenced with single strand wire and will be appropriately shaped,

i.e., slopes 4:1 or less, to minimize erosion before seeding and to maximize vegetation establishment after seeding. Stockpiles will be adequately designated with signs. Topsoil shall not be used as pipeline padding or mixed with spoils.

3. Whenever possible, salvaged topsoil will be applied directly to recontoured areas, reducing to the greatest extent possible, long-term topsoil stockpiling.

4. Topsoil stockpiles and exterior cut and fill slopes of evaporation ponds will be seeded, as soon as possible, with the following interim reclamation seed mix to enhance viability of stockpiled topsoil and to minimize potential erosion problems with both stockpiles and evaporation ponds:

Species	Variety	Pounds Pure Live Seed/Acre
Grasses		
Pubescent wheatgrass	Luna	4
Thickspike wheatgrass	Critana	2
Forb		
Alfalfa	Ladak *	2

* preinoculated

5. Wherever possible, at least 12 inches of topsoil will be reapplied to disturbed areas after recontouring. When topsoil availability precludes a 12-inch application rate, as much topsoil as is available will be applied, but in no case will reapplied topsoil depth be less than 6 inches.

6. Reclamation will be initiated as soon after disturbance as possible, or as directed by the authorized officer.

7. Surface disturbing activities shall not be performed during periods when the soil is too wet to adequately support equipment. If equipment creates ruts in excess of 3 inches deep, the soil shall be deemed to be too wet to adequately support equipment. Mud blading is not considered an alternative to meeting the criterion in this stipulation.

8. Blading of vegetation or surface leveling of the area between wells comprising a well pair will not be allowed without prior documented authorization from the authorized officer.

9. The designated operator/lessee will be responsible for monitoring reclaimed areas for at least three complete growing seasons after final reclamation work is completed. Monitoring will continue to be required

until reclamation goals are successfully achieved and reclamation qualifies for bond release. Monitoring methods are subject to the approval of the authorized officer and will quantify the following elements (at a minimum):

a. Vegetative production
b. Crown cover
c. Plant composition

10. Reclamation will be considered for approval and bond release only after the results of monitoring are presented to BLM. Reclamation will be considered a failure and remedial measures required prior to bond release if one or more of the following conditions persist:

    a. Production of herbaceous perennial species by category (forb, grass) is less than that measured on representative undisturbed areas.

    b. Shrubs comprise less than 12 percent and perennial forbs less than 4 percent of the established plant composition by cover.

    c. Perennial crown cover is less than that measured on representative undisturbed areas.

    d. Soil erosion rates on reclaimed areas exceed those of representative undisturbed areas.

11. All merchantable forest products within the project development area that are taken, damaged, or destroyed will be purchased by the designated operator/lessee at the total appraisal price, to be determined by the authorized officer, Bureau of Land Management (BLM), White River Resource Area. Disposal will be as follows:

    All stems, stumps and branches over 4 inches in diameter shall be: a) removed from federal land for resale or private use, or b) cut into lengths not exceeding 4 feet and scattered away from the disturbance. All stems and branches less than 4 inches in diameter shall be evenly scattered away from the disturbed area.

12. Annual or noxious weeds shall be controlled on all disturbed areas as directed by the authorized officer. Method of control shall be by an approved mechanical method or an Environmental Protection Agency (EPA) registered herbicide. All herbicide application proposals must be under direct field supervision of an EPA certified pesticide applicator.

13. The species mixture submitted in the mine plan for use in reclamation is amended as follows:

Species	Variety	Pounds Pure Live Seed/Acre
Grasses		
Thickspike wheatgrass	Critana	0.5
Streambank wheatgrass	Sodar	0.5
Western wheatgrass	Arriba	1.0
Pubescent wheatgrass	Luna	0.5
Basin wildrye	Magnar	0.5
Russian wildrye	Vinall	0.5
Green needlegrass	Common	2.0
Orchardgrass	Paiute	0.25
Forbs		
Lewis flax	Apar	0.2
Cicer milkvetch	Monarch*	0.5
Alfalfa	50% Ladak*	0.75
	50% Nomad*	0.75
Small burnet	Delar	1.0
Shrubs		
Fourwing saltbush	Rincon (dewinged)	1.5
Winterfat		0.5
Antelope bitterbrush		1.0

* preinoculated

14. The quantity of seed applied on-the-ground will be determined on a Pure Live Seed (PLS) basis, PLS being defined as "tested purity rate" x "tested rate of germination." For example, the quantity of western wheatgrass seed (95 percent purity, 70 percent germination) needed to meet a stipulated 1.0 pound PLS/acre application rate:

    Actual applied seed rate = required PLS rate (lb per acre) / PLS index = 1.0 lb per acre / 0.9 x 0.70 = 1.5 lb per acre

15. Site-adapted, tested seed for the current year is required and is subject to the approval of the authorized officer (copies of the seed labels will be furnished to the authorized officer).

16. Specific cultural practices that promote the establishment and survival of seeded forbs and shrubs will be employed where practicable, subject to the approval of the authorized officer.

17. On-site burial of concrete or asphalt at the time of sodium mine site decommissioning is subject to prior approval of the authorized officer.

18. The designated operator/lessee shall promptly remove and dispose of all waste to an approved landfill, as directed by the authorized officer. The term "waste" as used herein means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, ashes, and equipment.

19. Drainages shall not be blocked with loose dirt or debris.

20. Before termination of the authorized facilities, the designated operator/lessee shall contact the authorized officer to arrange a joint inspection of the facilities and disturbance. The inspection will be held to determine if any reasonable and necessary changes, revisions, or additions need to be made to the approved restoration and rehabilitation plan.

21. Reclaimed areas will be fenced off with four strand barbed wire fence with braced corner posts conforming to BLM Type D fence specifications (Appendix A of the draft EIS). Reclaimed areas shall remain fenced so as to effectively exclude livestock use for a minimum of three complete growing seasons following final reclamation work and until bond release is approved by the authorized officer.

RANGE AND WILDLIFE

1. All powerlines and electric transmission facilities (aboveground) will conform to accepted raptor protection design criteria as presented in: Suggested Practices for Raptor Protection on Powerlines--State of the Art in 1981, Raptor Research Report No. 4, Raptor Research Foundation, c/o Carpenter St. Croix Nature Center, 12805 St. Croix Trail, Hastings, Minnesota 55033.

2. Upon completion of BLM's Section 7 Consultation requirements with the U.S. Fish and Wildlife Service, any threatened and endangered species conservation measures developed through the Section 7 Consultation process will be required of the designated operator/lessee.

3. In the event any raptor nest site is encountered during facility siting or well field construction, the designated operator/lessee shall notify the authorized officer immediately. Appropriate mitigative measures will be formulated at this time by the authorized officer, as necessary.

4. Where the authorized officer determines that consumption of contaminated water will be detrimental to animals, the designated operator/lessee shall prevent access by appropriate fencing with 8-foot high woven wire or chain link fence. The evaporation ponds shall be fenced in this manner.

5. The applicant will be responsible for offsetting short-term mule deer habitat losses associated with well field development and life-of-mine facilities. Under the direction of BLM, the designated operator/lessee shall be responsible for implementing mule deer habitat enhancement practices within the Piceance Basin at 5-year intervals through mine life. Habitat enhancement measures will be based on the extent of mule

deer habitat lost or made unavailable over each 5-year period, from the first year of development through the end of mine life (Environmental Consequences, Mule Deer). Specific practices that would be considered include, but are not necessarily limited to:

a. Mechanical brush manipulation
b. Range seeding
c. Prescribed burns
d. Water developments

The performance goal for mule deer habitat mitigation shall be to replace forage resources effectively lost over each 5-year period. BLM and the designated operator/lessee, in coordination with the Colorado Division of Wildlife, will appraise habitat losses, determine habitat enhancement needs, and formulate project methodology and design. All mitigation work will be subject to the approval of the BLM.

6. The designated operator/lessee shall be responsible for conducting annual raptor breeding activity inventories in pinyon-juniper habitats affected by well field development through mine life. These surveys shall be conducted by qualified personnel with demonstrated training and practical field experience in raptor behavior and breeding biology. The surveys will be conducted during May or June of each year and will encompass a study area which is comprised of that portion of the well field which would be affected 2 years in advance of current mining activity and a 500-foot buffer around the principal study area. Results of annual inventory will be furnished to BLM by September 1 of each year. The designated operator/lessee shall be responsible for executing emergency or remedial mitigation for newly initiated or previously undiscovered raptor nesting activity jeopardized by well field development, as directed by BLM in coordination with the U.S. Fish and Wildlife Service.

7. No unnecessary removal of pinyon pine or Utah juniper trees or snags will be allowed within the well field, particularly in that area between wells comprising a well pair. One year prior to preparative clearing of sites within the well field, individual trees which require removal must be identified for inspection and their removal approved of by the authorized officer and/or White River Resource Area wildlife biologist.

ARCHAEOLOGY/PALEONTOLOGY

1. In consultation with the Colorado State Historic Preservation Officer (SHPO), it has been determined by BLM that the following sites: 5RB2500, 5RB1923, and 5RB410, are potentially eligible for listing on the National Register of Historic Places (NRHP). It has also been determined that further data collection will be required to make a final determination of eligibility for these sites. Therefore, before beginning any construction which could affect these sites the lessee must, at its expense, collect sufficient data to enable SHPO to make a determination of eligibility. The contractor selected to gather this information must have a valid BLM permit and all testing plans must be reviewed and approved by BLM and SHPO prior to initiation of any excavations.

Should any or all of the three sites listed above be determined eligible for listing on the NRHP, the lessee will prepare a mitigative data recovery plan to retrieve the scientific data contained in the sites. Persons conducting mitigative field work must have a valid excavation permit issued by BLM. The data recovery plan must be developed in accordance with the Secretary of the Interior's guidelines for the treatment of archaeological properties. All mitigative data recovery plans are subject to review and approval by BLM and SHPO. Mitigation must be completed before construction within the site boundaries begins.

2. If in its operations, the designated operator/lessee discovers any cultural remains, monuments or sites, or any object of antiquity subject to the Antiquities Act of June 8, 1906 (34 Stat. 225; 16 U.S.C. Sec., 431-433), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), and 43 CFR, Part 3, the designated operator/lessee shall immediately cease activity and report directly to the Area Manager. BLM will then take necessary action to comply with the above legislation. The designated operator/lessee shall follow the mitigative requirements set forth by the BLM concerning protection, preservation, or disposition of any sites or material discovered. All known and identified sites will be avoided by project design. If this is not prudent and feasible, consultation with SHPO, as specified in 36 CFR 800, will be required. In cases where mitigation is necessary, the cost of such mitigation shall be borne by the designated operator/lessee, unless otherwise agreed upon.

3. The designated operator/lessee shall not knowingly disturb, alter, destroy, or take any fossils of significant scientific interest, and shall protect all such fossils in conformance with the measures included in the approval of the mining plan.

4. The designated operator/lessee shall immediately report any such fossils that might be altered or destroyed by his operation to the attention of the BLM authorized officer. Operations may continue as long as the fossil specimen or specimens will not be seriously damaged or destroyed by the activity. The BLM authorized officer shall evaluate or have evaluated such discoveries brought to his attention and, within five working days, shall notify the designated operator/lessee what action shall be taken with respect to such discoveries. All such fossils of significant scientific interest shall remain under the jurisdiction of the United States until ownership is determined under applicable law. Copies of all paleontological resource data generated as a result of the lease operations will be provided to the BLM authorized officer. The cost of any required salvage of such fossils shall be borne by the designated operator/lessee. These conditions apply to all such fossils of significant scientific interest discovered within the lease area.

ROADS AND PIPELINES

1. Access road upgrading shall be constructed and maintained in accordance with BLM 9113 guidelines and Class C-Mountainous Rio Blanco County Road standards.

2. The designated operator/lessee shall regularly maintain the road in a safe, usable condition. A regular maintenance program shall include, but not be limited to, blading, crowning, ditching, culvert installation, drainage installation, surfacing, and patrolling.

3. The designated operator/lessee shall post signs, visible within line of sight, indicating location of the underground water pipeline and electric cable, providing name, address, and telephone number of a responsible contact person.

4. All pipelines adjacent to or crossing access roads shall either be buried with a minimum of 4 to 5 feet of cover in alluvial areas and a minimum of 3 feet of cover in rocky areas, or they will otherwise be protected from road maintenance and construction activity.

5. Culverts and/or other measures may be necessary to control surface water runoff from the access road and adjacent areas so as not to impede natural drainage or create erosional hazards. Placement and construction is subject to direction and/or approval by the authorized officer.

6. Operator shall paint all permanent structures (on site for a period longer than 90 days after construction) a flat, noncontrasting color harmonious with the adjacent landscape. Exceptions to this requirement are small structures that are not readily visible from a distance of approximately 1/4 mile such as wire and small pipe or structures which, because of Occupational Safety and Health Act requirements, require safety coloration. Specific colors appropriate for the various landscapes are Cypr

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